UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,075	04/24/2001	Jun Hoshii	206556US2	2179

22850 7590 02/26/2007

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
HUNTSINGER, PETER K	
ART UNIT	PAPER NUMBER
2625	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	09/840,075	HOSHII ET AL.	
	Examiner	Art Unit	
	Peter K. Huntsinger	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,12,23 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,12,23 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/06 has been entered.

Response to Arguments

2. Applicant's arguments filed 10/16/06 have been fully considered but they are not persuasive.

The applicant argues on pages 6 and 7 of the response in essence that: **While the weighting associated with the blending can change the amount of relative blending, there is always some degree of both interpolations being used.**

a. The examiner respectfully disagrees. Tanaka discloses when the possibility of characters is strongest, nearest neighbor interpolation is used exclusively, and when the possibility of photographs is strongest, linear interpolation is used exclusively (col. 13, lines 38-58+). Tanaka discloses blending the interpolation processes only when the image is not determined to be the strongest possibility of either characters or photographs.

The applicant argues on pages 7 and 8 of the response in essence that:

Tanaka would have to undergo a complete redesign and operate using a different principle if Athitsos and Sekine were incorporated.

b. In response to applicant's argument, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 12, 23, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. Patent 5,953,463, and further in view of Athitsos et al. and Sekine et al. Patent No. 5,754,710.

Referring to claims 1, 12, and 23, Tanaka et al. disclose a computer-readable medium whereon an image data interpolation program has been recorded to implement pixel interpolation to image data of an image represented in multi-tone dot matrix pixels

on a computer, said computer-readable medium with the image data interpolation program recorded thereon, after being set ready for use on a computer, making the computer perform: a function of image data acquisition that acquires said image data; a first interpolation processing function that interpolates pixels to said image data without decreasing the degree of tone value difference between the existing pixels (nearest neighbor interpolation, col. 1, lines 20-27); a second interpolation processing function that interpolates pixels to said image data without affecting the gradation of the tones of the image (linear interpolation, col. 1, lines 28-42); and a function of determing if the image is a non-natural image or a natural image, or that it cannot be determined whether the image is either a natural image nor a non-natural image (col. 9, lines 7-16), said determination that the image is a non-natural image resulting in said first interpolation processing function, said determination that the image is a natural image resulting in said second interpolation processing function (col. 13, lines 38-58), and if the image data cannot be determined to be either said natural image or said non-natural image, both the first and second interpolation processing functions are performed and results from the first and second interpolation processing functions are blended (col. 16, lines 38-42). Tanaka et al. disclose nearest neighbor interpolation but do not disclose expressly pattern matching interpolation. Sekine et al. disclose a first interpolation processing function executing pattern matching interpolation according to a predetermined rule, when a given pattern exists in reference pixels (col. 5, lines 43-47). Tanaka et al. and Sekine et al. are combinable because they are from the same field of image interpolation. At the time of the invention, it would have been obvious to a

person of ordinary skill in the art to implement pattern matching interpolation. The motivation for doing so would have been to improve speed or image sharpness over other interpolation processes. Tanaka et al. do not disclose expressly determining whether an image is a natural or a non-natural image based on brightness. Athitsos et al. teach that an image can be determined to be natural or non-natural based on brightness data of said acquired image data (section 3.2 of page 11). Tanaka et al. and Athitsos et al. are combinable because they are from the same field of image interpolation. At the time of the invention, it would have obvious to a person of ordinary skill in the art to determine if an image is a natural or non-natural image based on brightness. The motivation for doing so would have been to utilize a computer to accurately determine image types. Therefore, it would have been obvious to combine Athitsos et al. with Tanaka et al. to obtain the invention as specified in claims 1, 12, and 23.

Referring to claim 34, Sekine et al. disclose wherein said pattern matching interpolation refers to pixels determined based on the given pattern (col. 5, lines 43-47).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moe Aung can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PKH

AUNG S. MOE 2/26/07
SUPERVISORY PATENT EXAMINER